Stanley Consultants

TRANSMITTAL

TO: Cynthia Hutchison
US Environmental Protection Agency
901 N 5th St.
Kansas City, KS 66101

DATE: June 27, 2007

PROJECT: Blackhawk Foundry

LOCATION:

PROJECT NO.: 20224.01

SUBJECT:

CONTRACT NO.:

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Full size copies of site drawings.

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Blackhawk Foundry and Machine Company
Davenport, Iowa
RCRA Facility Site History
IAD005264049

Background

Blackhawk initially came to the attention of IDNR and USEPA during the mid 1980's. They were storing/dewatering a waste material (air pollution control scrubber sludge) in a surface impoundment on site prior to disposal off site. Based on EP Toxicity testing the sludge occasionally exceeded the limit for lead in the extract, causing the material to be a D007 hazardous waste.

Among its raw materials Blackhawk used scrap steel and iron. The source of the lead in the sludge was a contaminant in the scrap, probably lead containing paint on the scrap steel. Upon discovering this problem, Blackhawk implemented scrap control procedures which effectively eliminated the EP Toxicity problem. The impoundment was not used for waste management after 1985.

However, Blackhawk was left with the problem of closing the surface impoundment.

Closure Activities

Blackhawk subsequently initiated closure activities including an evaluation of soil in and around the surface impoundment, and an evaluation of groundwater in the surface impoundment area. The soils evaluation included a soil sampling program in and around the surface impoundment. These results indicated that soil removal would be necessary to obtain closure of the impoundment.

Contaminated soils in and around the surface impoundment were subsequently removed on three separate occasions during August and September 1988. Prior to soil removal the dimensions of the surface impoundment were approximately 24 ft wide by 36 feet long by 6 feet (maximum) deep. After completion of the last soil removal the dimensions of the impoundment were approximately 36 feet wide by 45 feet long by 10 feet (maximum) deep.

Samples of the sides and bottom of the impoundment were collected and analyzed on three occasions. All of these activities were documented in the closure report for the facility. The sampling results for lead are provided for reference in Table 1. All of the results were well below levels currently considered to be a concern for human health. Copies of those analytical reports we could find are attached.

The surface impoundment was filled with clay in 1996, in preparation for facility expansion. Subsequent construction of an addition to the Blackhawk building, and associated pavement have covered the former surface impoundment area with impervious surface.

Groundwater was evaluated over a number of years and determined not to be a concern. These results have been submitted to EPA previously, and are not duplicated here.

RFI/CMS Activities

Subsequent to the completion of the closure activities EPA requested Blackhawk perform a RCRA Facility Investigation, and Corrective Measures Study (RFI/CMS). Blackhawk initially undertook these activities during 1997.

The concern at the facility was contamination of surface soils by the metals lead, cadmium, and chromium. In order to evaluate the extent of contamination at the facility a series of surface soil samples were collected for laboratory analysis. These activities were performed in accordance with a work plan approved by EPA.

The RFI evaluation concentrated on those areas of the facility area known to have been used for waste management and those areas with significant receptors (high risk areas), and was less intensive in those areas not likely to have been used for waste management or not likely to affect human health or the environment (low risk areas). Because the primary concern was residual contamination in the surface soils on and around the site, the evaluation was limited to surface sampling and analysis, and those areas potentially affected by contaminated surface soils including sediments in Blackhawk Creek.

A total of 28 surface soil sampling areas, and three creek sediment sampling points, were ultimately utilized. The results of the analysis are summarized in Table 2. Also included for comparison purposes are the closure performance standards from the 1990 closure report, typical levels for the individual contaminants in soils according to information provided by EPA Region VII, and typical health-based levels of concern (residential soil ingestion pathway) for the contaminants based on values published in the EPA Region III Risk Based Concentration Table (RBCT), and/or as published by EPA in its national soil screening guidance document (SSL's).

Figure C01 shows the current configuration of the Blackhawk facility. Figure C02 shows the sampling locations utilized during the 1997 RFI activities.

As can be seen from the table, the observed levels of lead are generally higher than the old closure performance standard, within the range of typical lead levels for uncontaminated soils, and, in all but one location, below the stated health-based level of concern. The observed levels for cadmium and chromium are in most cases at or below their respective closure performance standards, within their respective ranges for uncontaminated soils, and well below the published health- based levels.

Activities Subsequent to RFI

In 1998 Blackhawk constructed of a new 80 ft. by 120 ft. building in portions of the areas designated in the RFI as sections E1, B4, and D4 as shown on Figure C02. Blackhawk

recognized that construction of the new building would disturb some of the soil within area B4. Accordingly Blackhawk elected to remove the soil from the B4 area which would fall within the new building footprint to a depth sufficient to alleviate concerns related to residual lead contamination.

The depth of soil removal was approximately 18 to 24 inches. Samples of the bottom of the excavation were collected following soil removal. Soil was disposed at a permitted facility. The results of the laboratory analysis indicate that the total lead level in the soil remaining (i.e. at the 18 to 24 inch depth level) in place in the B4 area within the new building footprint is 125 mg/kg. This is substantially lower than the surface soil level of 491 mg/kg identified during the 1997 RFI activities. These activities have been documented previously.

Current Situation

Blackhawk would now like to excavate the remainder of Area B4, thereby removing the last of the soil on site having a lead concentration exceeding the 400 mg/kg level. After these activities none of the surface soils at the facility will exceed the health based level for lead as shown on Table 2.

Table 1
Blackhawk Foundry and Machine Company

Closure Sampling Results
Observed Lead Concentrations
mg/kg

Sample ID	Sample Date			
	8/19/88	9/27/88	10/12/88	10/14/88
Bottom #1	62	<0.1	NS	NS
Bottom #2	22	0.5	NS	NS
Bottom #3	88	2.0	NS	NS
Bottom #4	11	4.3	NS	NS
Bottom #5	116	<0.1	NS	NS
Bottom #6	69	25	NS	NS
West Wall	65	13	NS	NS
North Wall	63	<0.1	NS	NS
East Wall	24	97	6.1	<0.1
Roadway	172	33	NS	NS
Closure Performance Standard	50	50	50	50
Health Based Value	400	400	400	400

Note: The 8/19 sampling was conducted after the first soil removal event. The 9/27 and 10/14 samplings were both collected after the final soil removal event.
Results for 8/22, 9/27, and 10/14 as provided by Quad City Water Treatment Co., LeClaire, IA.
The 10/12 sample result was provided by NET Inc. (now TestAmerica, Inc.), Cedar Falls Iowa
NS – No Sample Collected

Table 2

Blackhawk Foundry and Machine Company
RCRA Corrective Measures Study

Soil Sampling 1997
Laboratory Analysis Results

Sample ID	Sample Type	Aprx Samp Area (sq. ft.)	Total Lead mg/kg	Total Cadmium mg/kg	Total Chromium mg/kg
A2	Comp. (of 8)	10,000	149	2.5	8.3
A3	Comp. (of 4)	10,000	121	1.6	3.1
A4	Comp (of 8)	5,000	373	5.4	6.4
B1	Comp. (of 4)	5,000	70	1	<0.5
B3	Comp. (of 4)	5,000	263	3	1.1
B4	Comp. (of 4)	5,000	491	4.7	7.1
C1	Grab	N/A	74	1.1	0.6
C2	Grab	N/A	88	1.1	<0.5
C3	Grab	N/A	53	1.3	1.1
C4	Grab	N/A	355	2.6	1.8
C5	Grab	N/A	231	1.4	1.9
C6	Grab	N/A	121	1.6	0.6
C7	Grab	N/A	32	0.7	0.5
D1	Comp. (of 5)	5,000	140	2.1	1.2
D2	Comp. (of 5)	5,000	108	1.2	0.8
D3	Comp. (of 5)	8,000	56	1.2	<0.5
D4	Comp. (of 5)	8,000	59	1.8	<0.5
D5	Comp. (of 5)	5,000	0.9	<0.5	<0.5
D6	Comp. (of 8)	8,000	290	3.1	2.9

E1	Comp. (of 5)	10,000	15	1.1	0.5
E4	Comp. (of 5)	5,000	34	1.2	0.7
E5	Comp. (of 5)	5,000	84	1	<0.5
E6	Comp. (of 5)	5,000	168	2.1	1.1
E6A	Comp. (of 6)	5,000	76	1.3	0.5
E7	Comp. (of 6)	8,000	5.8	<0.5	2.5
E8	Comp. (of 6)	7,000	23	0.6	<0.5
E9	Comp. (of 6)	10,000	18	0.6	<0.5
E10	Comp. (of 5)	10,000	85	1.4	0.6
Creek (US)	Grab	N/A	1.8	0.6	<0.5
Creek (Mid)	Grab	N/A	8.4	0.8	<0.5
Creek (DS)	Grab	N/A	23	0.9	<0.5
Closure Performance Std. (1990)	N/A	N/A	50	2.6	1.8
Typical Soil Level (Range)	N/A	N/A	1 - 888	0.01 - 7	5 - 3000
Health-Based Level	N/A	N/A	400	39	390 (*)

Laboratory results as reported by Quad City Water Treatment Co., LeClaire, Iowa
Closure Performance Standards from 1990 Closure Report, Shive-Hattery Engineers, Inc.
Typical Soil Levels provided by US EPA Region VII (see appendix)
Health Based Levels from US EPA Region III Risk-Based Concentration Table and/or EPA National Soil Screening Guidance Document (SSL's).
* Value for hexavalent chromium

QUAD CITY WATER TREATMENT CO

316 JONES PO BOX 536
LECLAIRE,IA 52753 319-289-3373

LABORATORY REPORT SUMMARY

AUGUST 29, 1988

MR. JIM GRAFTON JR.
BLACKHAWK FOUNDRY
P.O. BOX 3527
DAVENPORT, IOWA 52808

SAMPLES REC: 8-22-88
POST CLOSURE SOIL SAMPLES

SAMPLE ID	LEAD MG/KG	CHROMIUM MG/KG	CADMIUM MG/KG
1	62	12	0.9
2	22	8.1	<0.1
3	88	14	4.1
4	11	2.8	3.1
5	116	17	5.3
6	69	5.2	<0.1
7	65	5.1	<0.1
8	63	3.8	3.1
9	24	14	2.9
10	172	29	8.0

ROBERT B. BLACK
CHEMIST

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION

Company: SHIVE-HATTERY

Address: BOX 1050
IOWA CITY IOWA 52244

Telephone #: 319 354 3040

SAMPLING SITE INFORMATION

Address: BLACK HAWK FOUNDRY
POST CLOSURE
SAMPLING

Sampler: Howard Scott Byram
(Signature)

Project Supervisor: Scott Byram

COLLECTION INFORMATION							# of Bottles	Type (Glass, Etc.)	REMARKS
Sample I.D.	Date Sampled	Time Sampled	Comp.	Grab	Sample Size	Site Location			
1	8/19/88	925 A	X			PIT Bottom	1		ANALYZE ALL FOR TOTAL LEAD, TOTAL CADMIUM, AND TOTAL CHROMIUM
2		930 A	X			PIT Bottom	1		
3		935 A	X			PIT Bottom	1		
4		940 A	X			PIT Bottom	1		
5		945 A	X			PIT Bottom	1		
6		950 A	X			PIT Bottom	1		
7		1005 A	X			WEST WALL	1		
8		1015 A	X			NORTH WALL	1		
9		1025 A	X			EAST WALL	1		
10		1045 A		X		ROADWAY	1		

SEALED & SHIPPED VIA UPS

RELINQUISHED BY	DATE	TIME	RECEIVED BY (Signature & Company)
1. Howard Scott Byram	8/19/88	500 PM	[illegible] 8-22-88 3:00pm
2.			
3.			Received for Laboratory:

188210-1

NATIONAL ENVIRONMENTAL TESTING, INC.

INF COPY

NET Midwest, Inc.
Cedar Falls Division
1922 Main Street
P.O. Box 625
Cedar Falls IA 50613
Tel: (319) 277-2401
Fax: (319) 277-2425

Formerly:
SERCO Laboratories

ANALYTICAL REPORT

Scott Byram
SHIVE HATTERY & ASSOC.
P.O. Box 1050
Iowa City IA 52240

10-20-88

Sample No.: 28762

Sample Description: Composite: East Wall Pit
SOIL - BLACKHAWK FOUNDRY

Date Taken: 10-12-88

Date Received: 10-14-88 1000

Cadmium	0.31	ug/g
Chromium, Total	7.0	ug/g
Lead	6.1	ug/g

R.L. Bindert
Laboratory Supervisor

NATIONAL ENVIRONMENTAL TESTING, INC.
1922 Main Street
Cedar Falls, IA 50613

CHAIN OF CUSTODY RECORD

INF COPY

CLIENT INFORMATION

Company: SHIVE-HATTERY ENG.
Address: BOX 1050
IOWA CITY, IOWA 52244
Telephone #: 319-354-3040

SAMPLING SITE INFORMATION

Address: BLACKHAWK FOUNDRY
DAVENPORT
IAD 005264049

Sampler: Howard Scott Byram (Signature)

Project Supervisor: Scott Byram

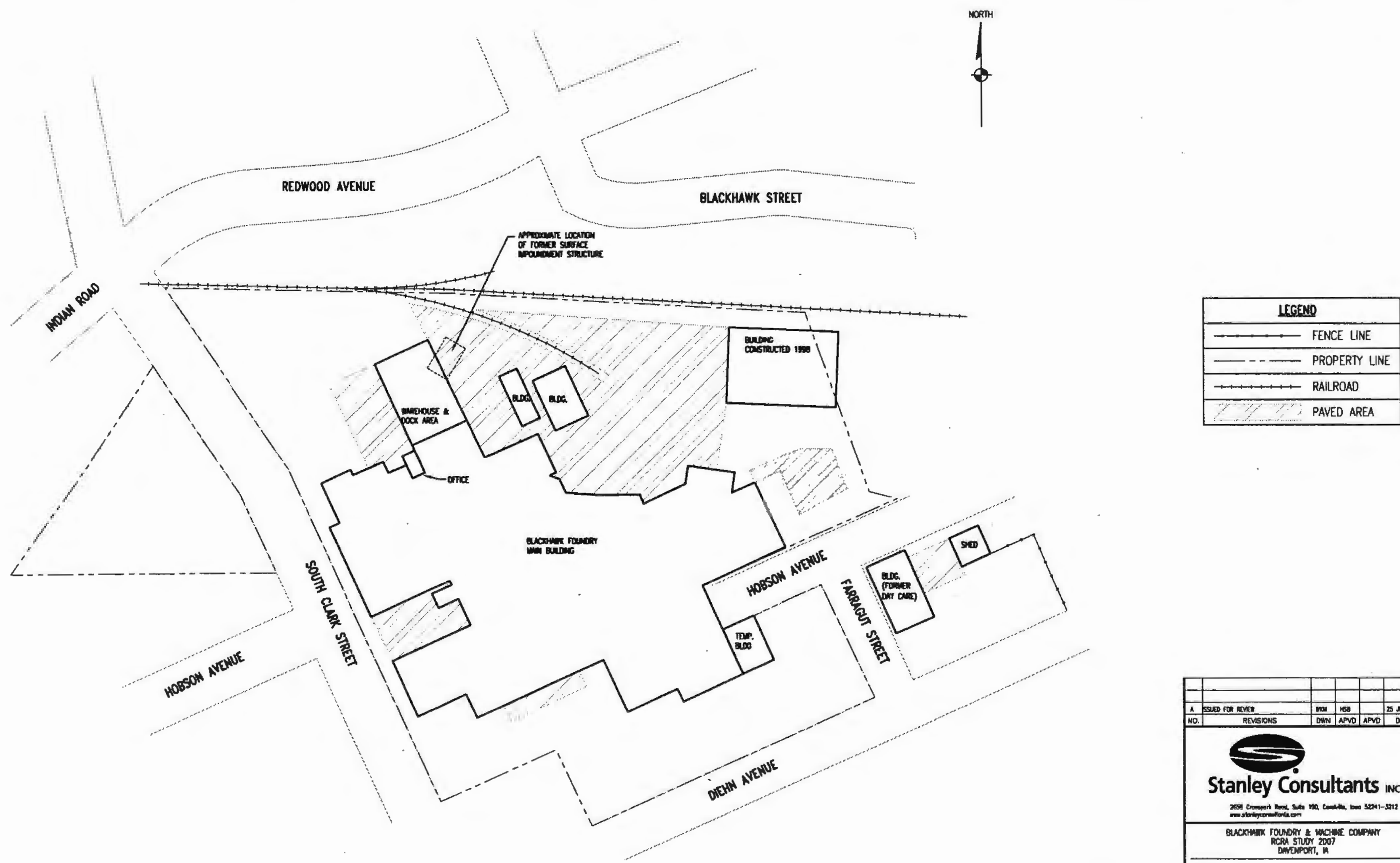
COLLECTION INFORMATION

Sample I.D.	Date Sampled	Time Sampled	Comp.	Grab	Preserv.	Site Location	# of Bottles	Type 40Z GLASS	REMARKS
1	10/12/88	330P	X			EAST WALL PIT	1	1	ANALYSIS REQ'D TOTAL LEAD, CADMIUM, & CHROMIUM
									PLEASE RETURN THIS FORM WITH RESULTS

SEALED & SHIPPED VIA UPS

RELINQUISHED BY	DATE	TIME	RECEIVED BY (Signature & Company)
1. Howard Scott Byram	10/13/88	500 PM	
2.			
3.			Received for Laboratory: Norma A Hazlett 10/14/88 10:00

0-01-E381



NO.	REVISIONS	DWN	APVD	APVD	DATE
A	ISSUED FOR REVIEW	WKM	HSB		25 JUN 07

Stanley Consultants INC.

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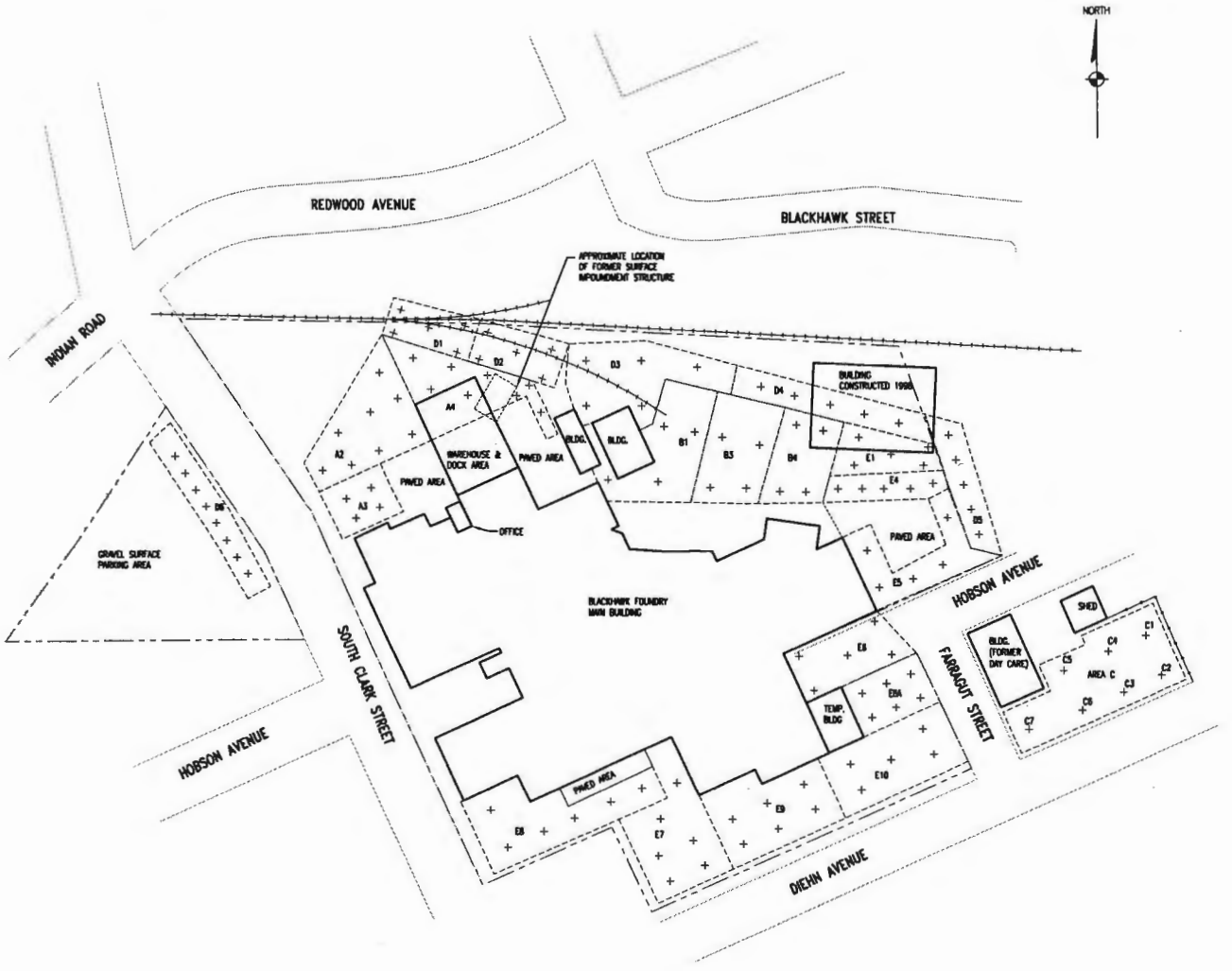
BLACKHAWK FOUNDRY & MACHINE COMPANY
RCRA STUDY 2007
DAVENPORT, IA

BASE MAP

DESIGNED W. McCAIN
DRAWN W. McCAIN
CHECKED H. BYRAM
APPROVED
APPROVED
DATE 25 JUNE 2007

SCALE: 1"=50'
NO. 20224.01.00
C01
REV. A



LEGEND

----------	APPROXIMATE SAMPLE AREA (1997)
-+-+-+-+-	FENCE LINE
————	PROPERTY LINE
-+-+-+-+-	RAILROAD
+	TYPICAL ALIQUOT LOCATION (1997 SAMPLING)

NOTES

1.) BUILDING CONFIGURATION SHOWN IS CURRENT.

2.) FORMER SURFACE IMPOUNDMENT SHOWN AT PRE-CLOSURE SIZE (PRIOR TO SOIL REMOVAL).

NO.	REVISIONS	DWN	APVD	APVD	DATE
A	ISSUED FOR REVIEW	BKM	HSB		22 JUN 07

Stanley Consultants INC.

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www.stanleyconsultants.com

BLACKHAWK FOUNDRY & MACHINE COMPANY
RCRA STUDY 2007
DAVENPORT, IA

APPROXIMATE SAMPLE LOCATIONS 1997 RFI SOIL SAMPLING

DESIGNED B. McCAIN	SCALE: 1"=50'
DRAWN B. McCAIN	NO. 20224.01.00
CHECKED H. RYNN	REV.
APPROVED	C02
APPROVED	A
DATE 22 JUNE 2007	

AT FULL SIZE
0 1 2 3 IN
0 1 2 3 4 5 6 7 8 cm